DEPARTMENT OF THE NAVY
NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO

8 April 1996

Ms. Mary C. Sanderson
Chief, Federal Facilities Superfund Section
Office of Site Remediation and Restoration
U.S. Environmental Protection Agency, Region 1
J.F. Kennedy Building - HBT
Boston, MA 02203-2211

Mr. Warren S. Angell II
Supervising Engineer
Division of Site Remediation
Rhode Island Department of Environmental Management
291 Promenade Street
Providence, RI 02908-5767

Dear Ms. Sanderson and Mr. Angell,

In furtherance of our recent telephone conversations, this letter and the attached discussion paper is in partial response to both EPA and RIDEM comments regarding the Navy's preferred remediation proposal for Site 09, Allen Harbor Landfill at the former NCBC Davisville, Rhode Island. The comments indicated that the Navy's proposal may not meet the Applicable, Relevant and Appropriate Requirements (ARARs) established for the site. While the Navy recognizes that Rhode Island Solid Waste regulations multimedia cap requirements, as well as the RCRA subtitle C (RCRA "C") requirements are to be treated as ARARs, deviation from strict compliance from those ARARs is both appropriate and environmentally preferable for the Allen Harbor Landfill Site 09.

The relevant Rhode Island Solid Waste regulations allow RIDEM to find that the Navy's proposal is in compliance with those requirements. The Corrective Action Program as promulgated by Appendix K of the Rhode Island Solid Waste regulations allow for the Director (RIDEM) to determine that remediation at Site 09 is not necessary upon demonstration by the Navy that:

> The constituent(s) present in the ground water:
>
> > Is not currently or reasonable expected to be a source of drinking water; and
> > Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in concentration(s) that would exceed the ground water protection standards established under Rule 7.08.

The Comprehensive Environmental Response, Compensation and Liability Act at 42 U.S.C. section 9621 (d)(4) as implemented by the NCP also provides flexibility for the

selection of a remedy that may appropriately deviate from strict compliance of an ARAR. In this case, the Navy proposes that the necessary findings can be made to allow use of section 9621 (d)(4) supporting the Navy's proposal for Site 09. In particular, it can be demonstrated and determined that:

1. Compliance with the identified ARAR is technically impracticable from an engineering perspective (section 9621 (d)(4)(C)).

2. The remedial action selected will attain a standard of performance that is equivalent to that required under the otherwise applicable standard, requirement, criteria, or limitation through the use of another method or approach (section 9621 (d)(4)(D)).

3. Compliance with the identified ARAR at the facility will result in greater risk to human health and the environment than alternative options (section 9621 (d)(4)(B)).

The attached discussion paper is offered to support the selection of the Navy's proposal (Alternative #2) for Site 09. Accordingly, the Navy respectfully requests that RIDEM utilize the discretion provided in Appendix K of the Rhode Island Solid Waste Regulations and that EPA, RIDEM and the Base Cleanup Team (BCT) agree that the Navy has adequately demonstrated the necessary factors to allow utilization of CERCLA section 9621(d) and approve selection of the Alternative #2 remedy. I understand that the BCT will be meeting on April 10, 1996 to discuss this matter further as well as address all of the comments provided to the Draft Feasibility Study.

Sincerely,

A.E. Haring, P.E.
Head, Environmental Restoration Division
Environmental Department
by direction of the Commanding Officer

cc:
CSO Davisville RI
NOAA K. Finklestein
USF&WS T. Prior
RIEDC G. Prete
TONK R. Kerbel
CRMC K. Anderson
RIRCDC B. Wolfenden

Navy Discussion Paper 8 April 1996

SITE 09 ALLEN HARBOR LANDFILL

NCBC DAVISVILLE, RI

The Navy is proposing site remediation which includes the following components:

- Regrading the site and constructing a soil cap over the entire landfill with restoration of upland habitat;
- Constructing a rip-rap revetment for shoreline protection;
- Removing intertidal sediments along the site shoreline with subsequent wetland creation;
- Monitoring of groundwater, soil, sediment, and shellfish; and,
- Establishing appropriate institutional controls.

Rhode Island Solid Waste Regulations (Appendix K) allow the Director to determine that remediation of a release from a solid waste landfill is not necessary if the owner demonstrates that:

THE GROUND WATER IS NOT CURRENTLY OR REASONABLY EXPECTED TO BE A SOURCE OF DRINKING WATER, AND

The landfill site is surrounded by seawater in Allen Harbor to the north, east and south and wetlands to the west. The Comprehensive Reuse Plan approved in February 1994 designates this area to be used as a conservation area and proposes transfer to the Town of North Kingstown. There is a public water supply distribution within 3,000 feet. Ground water in this area is currently designated as GB (non-potable without treatment) by the State of Rhode Island.

THE GROUND WATER IS NOT HYDRAULICALLY CONNECTED WITH WATERS TO WHICH THE HAZARDOUS CONSTITUENTS ARE MIGRATING OR ARE LIKELY TO MIGRATE IN CONCENTRATIONS THAT WOULD EXCEED PROTECTIVE STANDARDS.

The remediation that the Navy is proposing is the best strategy considering all site specific information. The Navy has reasonably demonstrated that contaminants of human health and ecological risk concern (i.e. metals) in the landfill are not migrating via groundwater, but rather by erosion and soil surface run-off pathways. Metals have not been detected in groundwater wells above concentrations which exceed protective standards (See Table 2-25 of the Draft Final Phase II Allen Harbor Landfill Remedial Investigation Report of June 1994. In addition, concentrations of metals detected in wells at the landfill were

below background concentrations proposed in the Draft Basewide Ground Water Inorganics Study Report for NCBC Davisville, RI of April 1996 which is currently under review. This is consistent with available information found in the literature which reports that metals are normally retained in the soil with minimal movement into other environmental components as long as the retention capacity of the soil is not exceeded (EPA Oct 1992 Behavior of Metals in Soils). Extensive site specific information for the potential of migration of metals in groundwater included in the Phase III Remedial Investigation was used in the Feasibility Study. EPA comments on that report, dated March 13, 1996, concur that the current data do not suggest that ground water is causing a problem presently, however EPA expresses concern about continued discharge of groundwater over time. It is noted that the landfill has been closed for over two decades and the Navy intends to monitor potential contaminant migration for this concern in the future.

Strict compliance with either the RCRA "C" or the Rhode Island Solid Waste Management Regulations may not be appropriate for the following reasons:

1. TECHNICAL IMPRACTICABILITY

Strict compliance will be technically impracticable from an engineering perspective in that construction of a 3:1 slope from the existing toe of the landfill will require removal of structural elements, such as blocks of concrete and wire rope placed at the perimeter during construction of the landfill, which provide current stability to the slope. This removal practice appears to have increased erosion at the McAllister Point Landfill at NETC Newport. Portions of the slope (and potentially the impermeable membrane) will be subject to twice daily saturation in the intertidal zone, which in the case of a 100-year storm event will flood to 14 feet above mean sea level. This situation is not typical at most landfill sites and we have been unable to locate evidence that this system has performed satisfactorily in a coastal environment. Furthermore there are concerns regarding the continued integrity of the impermeable membrane if rip-rap is placed on top of the membrane, or:

2. EQUIVALENT STANDARD OF PERFORMANCE

Equivalent or better results will be achieved using the proposed design. The soil cap will reduce infiltration through site grading and drainage. Establishment of a productive vegetative layer and root zone will further decrease infiltration and increase evapotranspiration. This system will provide greater protection in the future than the artificial materials (synthetic membranes) which may deteriorate over time. In addition the Navy's proposed alternative would not limit future actions at the site (e.g. well installation) which would compromise the integrity of an impermeable synthetic cap. The Navy is also proposing to establish wetlands at the site.

Wetlands created along the site shoreline will interconnect the wetlands to the north and south of the site and act as a permanent and environmentally sound buffer providing superior shoreline protection for the site, or:

3. LESS ENVIRONMENTAL RISK

The placement of an impermeable cap will also create greater risk to the environment than the Navy proposal. The elimination of deep rooted vegetation from the site will have permanent negative effects on wildlife, wildlife habitat and natural aesthetics. In addition to the benefits of the wetlands created for shoreline protection, these wetlands, which will connect the existing northern and southern wetlands, will increase the habitat value of the intertidal zone near the face of the landfill. The Navy will coordinate with federal and state natural resource trustees to develop a habitat restoration plan.